

## ABSTRACT

The present invention provides polypeptides that suppresses neuronal death associated with Alzheimer's disease. Using a neuronal cell system, wherein the expression of familial Alzheimer's disease mutant APP can be induced by ecdysone treatment, a gene that protects the neurons from cell death was successfully isolated. The gene encodes a secretory polypeptide consisting of 24 amino acids, and this polypeptide suppresses neuronal death caused by the expression of APP mutants and presenilin mutants. The polypeptide also suppressed cell death of primary neuronal culture caused by A $\beta$ . Furthermore, by mutating the amino acids of the polypeptide, the neuronal death suppression activity of the polypeptide was successfully and significantly enhanced. These polypeptides and derivatives thereof are useful as pharmaceuticals to prevent neuronal death associated with Alzheimer's disease, and as seed compounds for developing novel pharmaceuticals for Alzheimer's disease.